

The Impact of Learning Organization Dimensions on Performance Improvement: Cases of the Assets Management Industry in Thailand

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บทคัดย่อ

วัตถุประสงค์ของการศึกษานี้เพื่อ (1) ทบทวนแนวคิดและหลักการขององค์กรแห่งการเรียนรู้ (2) ศึกษาตัวแปรที่มีอิทธิพลกับศักยภาพองค์กรและการเรียนรู้ในองค์กร สำหรับธุรกิจจัดการกองทุนรวม (3) วิเคราะห์ความสัมพันธ์ระหว่างตัวแปรที่มีอิทธิพลกับศักยภาพองค์กรและการเรียนรู้ในองค์กร (4) ทดสอบและตรวจสอบความสัมพันธ์ระหว่างตัวแปรที่มีอิทธิพลการเรียนรู้ในองค์กร การถ่ายทอดองค์ความรู้ กับศักยภาพขององค์กรในด้านการเงินและทักษะความรู้ขององค์กร และ (5) หาข้ออุปสรรค สรุปผล และ ให้ข้อเสนอแนะในการพัฒนาองค์กรแห่งการเรียนรู้ในธุรกิจจัดการกองทุนรวม

ในการศึกษานี้จะใช้วิธีการศึกษาแบบเชิงปริมาณโดยส่งแบบสอบถามไปยัง 14 บริษัทจัดการกองทุนรวม ซึ่งในการศึกษาคั้งนี้ได้รับการสนับสนุนจากผู้บริหารระดับสูงของทั้ง 14 บริษัท โดยแบบสอบถามที่มีความสมบูรณ์ได้รับกลับคืนมาทั้งสิ้น 371 ชุดจากที่ส่งไปทั้งหมด 1,135 ชุด โดยในการศึกษานี้ตัวแปร (อิสระ) ที่มีอิทธิพลกับศักยภาพองค์กรตามการศึกษาของ Burke-Litwin Model (1992) ซึ่งได้แก่ ความเป็นผู้นำ, วัฒนธรรมองค์กร, ภารกิจและกลยุทธ์, การบริหาร, โครงสร้าง, บรรยากาศ และ การจูงใจ สำหรับ ตัวแปรตามตามที่ทำหน้าที่ตัวแปรกลาง (Drivers) ต่อการเพิ่มศักยภาพในองค์กร ในการศึกษานี้ได้แก่

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การเรียนขององค์กร ซึ่งแบ่งออกเป็น ระดับบุคคล, ระดับทีม และ ระดับองค์กร การเผยแพร่ความรู้ซึ่งแบ่งออกเป็น การเผยแพร่ในรูปแบบเอกสาร (ทางการ) และการเผยแพร่อย่างฟืสอนน้อง (ไม่เป็นทางการ) และตัวแปรตาม (Output) ศักยภาพขององค์กรจะถูกวัด 2 ด้าน คือ ด้านการเงินและด้านทักษะที่มีประสิทธิภาพเพิ่มขึ้น นอกจากนี้ในการศึกษานี้จะทำการตรวจสอบบทบาทตัวแปรกลางได้แก่ การเรียนขององค์กรและการเผยแพร่ความรู้ ว่ามีบทบาทต่อการศักยภาพในองค์กรเพียงใด โดยวิธีการวิเคราะห์จะใช้ Hierarchical (Ridge) Regression Analysis และ Structural Equation Modeling (SEM)

ข้อสรุปสำคัญจากการศึกษานี้ได้แก่ ตัวแปร (อิสระ) ทั้งเจ็ดที่มีอิทธิพล กับศักยภาพองค์กรตามการศึกษาของ Burke-Litwin (1992) พบว่ามีอิทธิพลทางอ้อมกับการเพิ่มศักยภาพองค์กร นอกจากนี้จากการศึกษาพบว่า ตัวแปรอิสระสี่ตัวได้แก่ การบริหาร, โครงสร้าง, บรรยากาศและการจูงใจ ซึ่งสอดคล้องกับการศึกษาของ Burke-Litwin (1992) ที่เรียกกลุ่มตัวแปรดังกล่าวว่า Transformational Factors ว่ามีบทบาทต่อการสร้างนวัตกรรมในองค์กร โดยในการศึกษานี้พบว่าตัวแปรกลุ่มดังกล่าวมีบทบาทโดยตรงต่อตัวแปรตามที่ทำหน้าที่ตัวแปรกลาง (Drivers) ต่อการเพิ่มศักยภาพในองค์กรทั้งสองในการศึกษานี้ได้แก่ การเรียนขององค์กรและการเผยแพร่ความรู้ในองค์กร โดยเฉพาะอย่างยิ่งตัวแปร “บรรยากาศ” ขณะที่บทบาทของกลุ่มตัวแปรที่ถูกรเรียกว่า Transactional Factors ตามการศึกษาของ Burke-Litwin (1992) ได้แก่ ความเป็นผู้นำ, วัฒนธรรมองค์กร, ภารกิจและกลยุทธ์พบว่าไม่มีอิทธิพล

Abstract

The objectives of this study are: first, to review the conceptualization of the learning organization concept; second, to measure the levels of perceived learning organization variables found in the Thai assets management industry; third, to analyze the relationships among learning organization variables; fourth, to test a learning organization model which examines the possible relationships between learning organization variables and the organizational outcomes of perceived organizational learning, transfer of tacit and explicit knowledge, financial performance, and knowledge performance; and finally, to develop a more comprehensive understanding of both motivations and obstacles underlying corporate responses to become a learning organization in the context of the assets management industry in Thailand.

The questionnaires were sent to the presidents' offices of fourteen asset management companies. With the support from executives in each company, 371 from a total of 1,135 questionnaires initially distributed were returned. The independent organizational variable sets were leadership, culture, mission and strategy, management practices, system, structure, climate, and motivation. The seven dependent variables were experiential learning, team learning, generative learning, documentation, dissemination, knowledge performance, and financial performance improvement. Hierarchical (Ridge) Regression Analysis and Structural Equation Modeling (SEM) were employed to examine the relationships

between the independent and dependent variables. Variables were entered into the regression models based on the Burke-Litwin Model of organizations. The study examined (i) the role of learning in predicting two transfer processes of tacit and explicit knowledge as documentation and dissemination which are classified as organizational performance drivers. (ii) The process of tacit and explicit knowledge transfer is also assumed to have a direct influence on performance improvement.

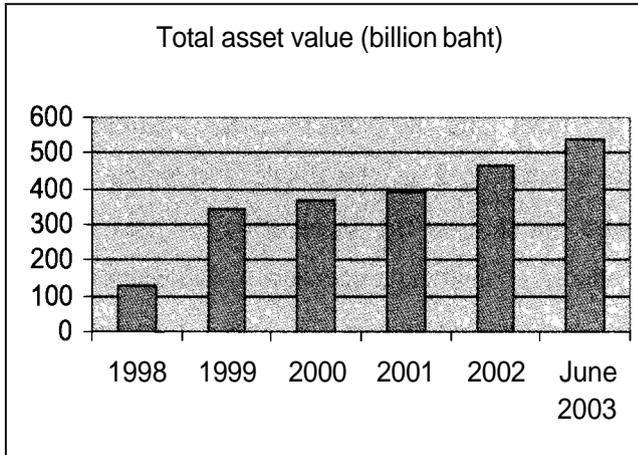
The findings suggest that the strong consistent roles for Ransfonational Factors are management practices, structure, system and climate in explaining learning outcomes and the process of tacit and explicit knowledge transfer. The Transactional Factors of leadership, mission and strategy, and culture were less effective in predicting learning outcomes and the process of tacit and explicit knowledge transfer.

An unexpected result was the poor role of organizational motivation. Experiential learning and team learning were important in the process of tacit and explicit knowledge transfer. Team learning and dissemination were important in the knowledge performance improvement, while Experiential Learning was important in improving financial performance. A path model based on the findings of the study is hypothesized. Recommendations for future research are presented.

Problem Statements

To better understand the concept of the Learning Organization in a Thai context, organizations in the public and private assets management sector were selected as the target group of this study. The study examined the effects of learning organization dimensions on organization learning and on performance drivers. The asset management industry is an important business sector. It involves mobilization of public savings in the financial secondary market. It is also closely related to the public in general. It is inevitable that the impact of external changes will greatly influence internal operations of such organizations.

The mutual fund market has grown rapidly in recent years after Thailand's 1997 economic crisis. Since then, private mutual funds have continued to issue new funds with the primary objective to provide an alternative source of funds for savings and investment. The bullish performance of the Thai stock market coupled with the successive downtrend of interest rates contributed to the vigor of the mutual fund market, as evidenced by a significant increase in both market size and number of funds. The outstanding net assets value of the registered mutual funds increased from THB 130 billion as of 1998 to THB 537 billion as of June 2003, while the number of funds also increased from 257 to 299 within the same period (see Figure 1). Therefore, many assets management companies have already experienced the rise and the fall of organization performance.



Source: Association of Investment Management Companies (AIMC), 2003.

Figure 1: The Total Net Assets Value of the Registered Mutual Funds in Thailand (billion baht)

Organizational learning and the ability to create new knowledge have been proclaimed as the most important organizational resources for the future. Learning ability may be the only reliable constant an organization can depend on for innovation and growth. As a result, organizations are focusing on the intellectual capital they possess and on ways to foster learning and creativity. The Learning Organization and its prescribed strategies are intended to encourage and increase an organization's ability to learn, and as a result of this learning, to perform more effectively and efficiently.

The shortcomings in the Learning Organization literature are not found in the ideas, theories, and examples of success advanced thus far. The weakness lies with the absence of validated measurement and the need to develop theoretical explanations of how the Learning Organization

affects organizational performance. This issue of empirical evidence and validation of theory is basic to any literature. Critical research is needed to acquire information necessary to understand organizational learning. The challenge to respond to these theoretical, measurement, and empirical research issues is critically important if the Learning Organization is to be accepted as a respected organization development strategy, and not lost to history as it was in 1997.

Purposes of the Study

The goals of the proposed study were:

1. to review the conceptualization of the learning organization concept and to gain insights into this concept from several best-practices in the assets management industry in Thailand;
2. to measure the levels of perceived learning organization variables found in the Thai assets management industry;
3. to analyze the relationships among learning organization variables;
4. to test a learning organization model which examines the possible relationships between learning organization variables and the organizational outcomes of perceived organizational learning, transfer of tacit and explicit knowledge, financial performance improvement, and knowledge performance improvement; and
5. to develop a more comprehensive understanding of both motivations and obstacles underlying corporate responses to become a learning organization in the context of the assets management industry in Thailand.

Assumptions

An important assumption in this study was that all participants felt comfortable to evaluate learning organization, tacit and explicit knowledge and performance of organization. Both chief executives and their subordinates determined the results. Since the survey relied on self-reported data, it was subject to inaccuracy. For the purposes of this study, it was assumed that these perceptions described actual data and their responses were accurate.

Definition of Terms

To assist in performing this research study the following definitions are provided for clarification of the terms used in the paper.

1. Learning Organization

Learning Organization theory is defined as a reflection of the transitional thinking about organizational activity as focused on information, knowledge, and creative thinking. Its purposes are aimed at sustaining the knowledge resources of an organization, or what has been termed its intellectual capital (Edvinsson & Malone, 1997).

2. Organizational Learning

It is defined as "the intentional use of learning processes at the individual, group and system level to continuously transform the organization in a direction that is increasingly satisfying to its stakeholders" (Dixon, 1994)

3. Performance

Burke and Litwin (1992: 533) defined performance as "the outcome or result as well as the indicator of effort and achievement". These outcomes include productivity, profit, service quality, and customer or employee satisfaction. In Holton (1999), performance is defined as the actual outcomes produced by the organizational efforts; that is, the actual products or services.

4. Performance Drivers

In discussing the meaning of performance, Holton (1999) distinguished between "performance" and "performance drivers". Performance drivers are those aspects of performance that are expected to sustain or increase system, sub-system, process, or individual ability and capacity to be more effective or efficient in the future

5. Performance Measurement

Performance measurement is the regular collection and reporting of information about the efficiency, quality, and effectiveness of human service programs (Holton, 1999), and is directly related to an entity's resources, learning, and achievement or results.

6. Transformational Factors

Transformational factors are defined as those organizational variables, which affect the organization's influence by/on, and interaction with the organizational environment, whether it is the internal or the external environment (Burke and Litwin, 1992).

| Factor | Definition |
|----------------------|--|
| External Environment | <ul style="list-style-type: none"> ● Outside condition or situation that influences performance of the organization |
| Leadership | <ul style="list-style-type: none"> ● Executive behavior that provides direction and encourages others to take needed action |
| Mission and Strategy | <ul style="list-style-type: none"> ● Central purpose of the organization and how it intends to achieve that purpose over time |
| Organization Culture | <ul style="list-style-type: none"> ● Rules, values, principles that guide organizational behavior and that have been influenced by history, custom, practices |

7. Transactional Factors

Transactional factors are defined as organizational variables that influence organizational behavior and outcomes through the dynamic of short-term reciprocity among individuals and groups (Burke and Litwin, 1992).

| Factor | Definition |
|----------------------|---|
| Management Practices | <p>Managers' use of human and material resources to carry out the organization's strategy</p> |

| Factor | Definition |
|-----------------------------------|--|
| Structure | <ul style="list-style-type: none"> ● The arrangement of functions and people into levels of responsibility, decision-making, authority, and relationships |
| Systems (Policies and Procedures) | <ul style="list-style-type: none"> ● Standardized policies and mechanism which facilitate work |
| Work Unit Climate | <ul style="list-style-type: none"> ● Collective impressions, expectations, feelings of work unit members |
| Task Requirements and Individual | <ul style="list-style-type: none"> ● Behaviors required for task effectiveness |
| Individual Needs and Values | <ul style="list-style-type: none"> ● Skills and Abilities factors which provide desire and worth for individual actions and thoughts move up |
| Motivation | <ul style="list-style-type: none"> ● Aroused behavior tendencies affecting actions, persistence, and goal attainment |

8. Tacit and Explicit Knowledge

People know more than they can tell. Personal Knowledge is so thoroughly grounded in experience that it cannot be expressed in its fullness. In the last 30 years, the terms tacit and explicit knowledge have come to stand for this type of human knowledge-knowledge that is bound up in the activity and effort that produced it (Horvath, 1999).

9. Documentation

Documentation has been defined as the extent to which tacit and explicit knowledge is coded, assembled, recorded, and comprehensively treated utilizing semantics, mechanical and/or electronic aids, and techniques of reproduction for giving documentary information maximum accessibility and usability (Argyris & Schon, 1996).

10. Dissemination

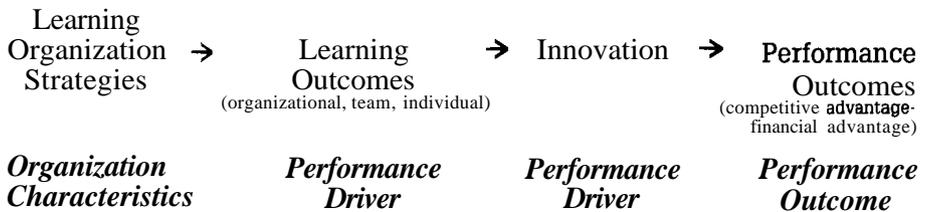
According to Argyris & Schon (1996) and Jelinek (1979), information dissemination is the process by which information is shared and diffused horizontally and vertically throughout the organization.

Research Framework

A learning organization is an organization that has woven a continuous and enhanced capacity to learn, adapt, and change into the fabric of its character. It has values, policies, practices, programs, systems, and structures that support and accelerate organizational learning. Each system is made up of subcomponents described in the following section.

The theoretical framework for the current study is taken from the model that the adoption of learning organization strategies should lead to organizational learning (see Figure 2). In turn, learning will lead to knowledge in organizations that value creativity and innovation. According to Hernandez. M. (2000), learning and tacit and explicit knowledge are predicted to act as performance drivers and should affect organizational performance effectiveness under the right environmental conditions.

The Kaiser-Holton model (see Figure 2) does not attempt to describe the relationship between the learning organization strategies, but only the relationship of the strategies to learning and performance as an organizational development system. However, the Burke-Litwin model (see Figure 3) hypothesizes the relationship between the organizational factors that are the targets of the learning organization strategies. These two models and the study of Hernandez. (2000) used in concert are hypothesized as representing the relationship between the learning organization strategies, learning, the process of knowledge transfer and performance.

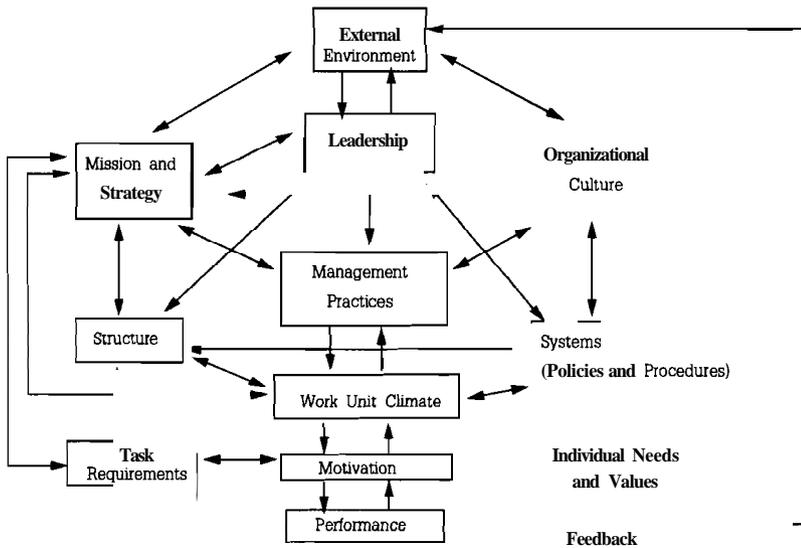


Source: Adapted from Kaiser & Holton, 1998.

Figure 2: Model of Learning Organization as a Performance improvement Strategy

To better capture the relationship between the conditions influencing the process of tacit/explicit knowledge transfer and its impact on knowledge performance improvement and financial performance improvement, the following model was proposed; a framework within which different determinants were placed and the relationships between them analyzed. The adoption of a unified analytical model enabled the researcher to sort out the contradictions that exist when different factors affecting the internal

transfer of knowledge are considered collectively. Within the model shown in Figure 4, an organizational environment influences the process of tacit/explicit knowledge transfer in which continuity of interaction, information redundancy and trust are fostered. The determinants of this environment are the (learning) organization variables and learning organization outcomes. The process of tacit and explicit knowledge transfer is also assumed to have a direct influence on performance improvement.



Source: Burke & Litwin (1992)

Figure 3: Burke-Litwin Model of Organization Performance and Change

For the purpose of this study, learning organization environment, tacit and explicit knowledge transfer, and performance improvement were viewed as latent constructs that are not directly measurable, although they

can be indirectly identified by a set of measurable indicators.

The latent construct "Tacit and explicit knowledge transfer" was identified on the basis of two indicators: the level of knowledge dissemination and the extent of knowledge documentation. "Individual performance" was identified on the basis of two indicators: the levels of knowledge performance and financial performance.

The items to measure knowledge performance, and financial performance were taken from the Dimensions of the Learning Organization Questionnaire (DLOQ), a survey developed by Watkins and Marsick (1996).

The items to measure dissemination and documentation were derived from Kogut & Zander, 1992; The knowledge Management Assessment tool (O'Dell & Grayson, 1998); and The Learning Organization Profile (Marquardt, 1996).

The items to measure learning organization variables and learning organization outcomes were based on the ASLLO survey instrument (Holton & Kaiser, 1997).

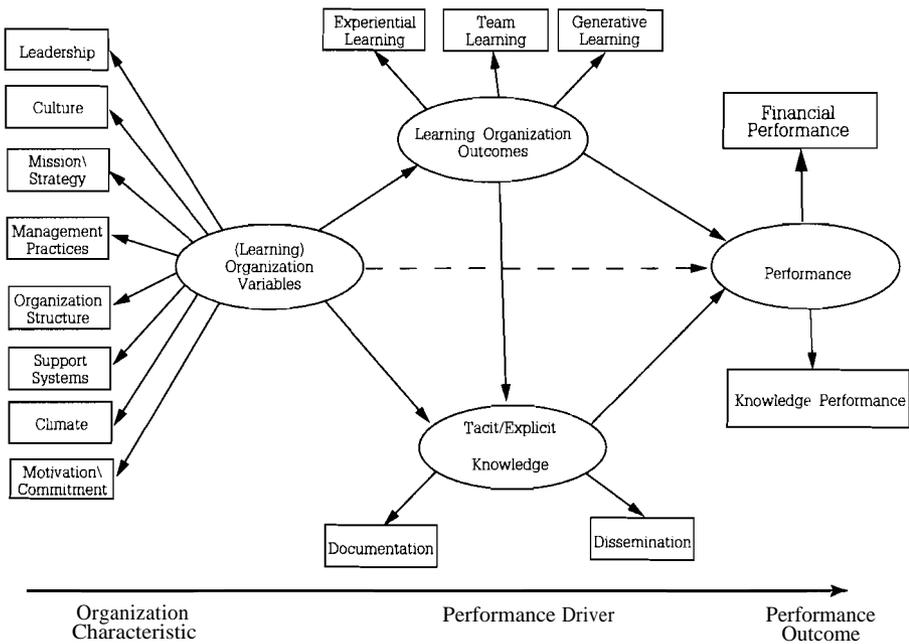


Figure 4: Conceptual Framework and Subcomponents

Data Collection

The unit of analysis in this study is working people from the assets management industry in Thailand. There were 17 assets management licenses issued by the Minister of Finance, according to Association of Investment Management Companies (AIMC) in 2004. However, the questionnaires were distributed within 14 companies (see Table 1) since three new assets management companies (Asset-PlusAM, ScibAM and BfitAM) had been granted licenses in recent years, thus making their learning organization variables, learning outcomes and transfer of tacit and explicit knowledge difficult to measure. The survey asked staffs' perception of how

people behave in their organization. While the management staffs have the most comprehensive perception of their organization, the perspective is different and may be distorted at the top level of the organization, leaning toward more favorable responses.

The questionnaires were separated into three groups based on three levels of management in each organization: (A) CEO level consisted of Chairman / Board of Executive Director / Managing Director / Deputy of Managing Director / Assistant Managing Director / Consultant, (B) Middle management level consisted of Director / Deputy Director / Assistant Director / Manager / Assistant Manager / Fund Manager, and (C) Operation level consisted of Officer / Analyst / Marketer / Programmer / Administrator / Accountant. For some companies that have Non-Thai executives and staffs, English questionnaires were also distributed.

The questionnaires were distributed by consensus to the fourteen asset management companies in the period (April 1-12, 2005) before the Song Kran festival holiday. All the questionnaires were collected back after May 4, 2005 by each company.

The questionnaires were sent to the president's office of each company. With the support from executives in each company, 371 from the total of 1,135 questionnaires initially distributed were returned. Hence, the rate of return was 32.68%, from fourteen companies.

Table 1: Data Sampling and Collection

| Company | Total Population | | | | Collected | | | |
|--|------------------|-----|-----|-------|-----------|-----|-----|-------|
| | A | B | C | Total | A | B | C | Total |
| BBL Asset Management Co., Ltd | 2 | 6 | 20 | 28 | 2 | 6 | 9 | 17 |
| Krung Thai Asset Management Public Co., Ltd. | 9 | 15 | 76 | 100 | 5 | 11 | 22 | 38 |
| TMB Asset Management Co., Ltd. | 11 | 10 | 39 | 60 | 1 | 4 | 20 | 25 |
| TISCO Asset Management Co., Ltd. | 3 | 16 | 120 | 139 | 3 | 11 | 16 | 30 |
| SCB Asset Management Co., Ltd. | 6 | 20 | 62 | 88 | 1 | 7 | 13 | 21 |
| Aberdeen Asset Management Co., Ltd. | 2 | 6 | 34 | 42 | 1 | 4 | 11 | 16 |
| National Asset Management Co., Ltd. | 14 | 30 | 90 | 134 | 5 | 7 | 17 | 29 |
| Ayudhya JF Asset Management Co., Ltd. | 1 | 15 | 55 | 71 | 0 | 2 | 2 | 4 |
| MFC Asset Management Public Co., Ltd. | 17 | 13 | 50 | 80 | 5 | 9 | 18 | 32 |
| BoA Asset Management Co., Ltd. | 10 | 15 | 35 | 60 | 3 | 22 | 37 | 62 |
| Prima Vest Asset Management Co., Ltd. | 3 | 8 | 40 | 51 | 1 | 5 | 14 | 20 |
| One Asset Management Co., Ltd. | 5 | 20 | 54 | 79 | 4 | 4 | 19 | 27 |
| ING Funds (Thailand) Co., Ltd. | 10 | 20 | 55 | 85 | 3 | 7 | 13 | 23 |
| Kasikorn Asset Management Co., Ltd. | 22 | 23 | 73 | 118 | 3 | 12 | 12 | 27 |
| Total | 115 | 217 | 803 | 1135 | 37 | 111 | 223 | 371 |

Remark: - 'A' is questionnaire for position Chairman / Board of Executive Director/ Managing Director / Deputy of Managing Director / Assistant Managing Director / consultant.
 - 'B' is questionnaire for position Director / Deputy Director / Assistant Director / Manager / Assistant Manager / Fund Manager.
 - 'C' is questionnaire for position officer / Analyst / Marketer / Programmer / Administrator / Accountant.

Measurement

This study was undertaken to empirically examine the hypothesized influence of organizational factors on the learning outcomes and performance drivers as described in the learning organization literature. More specifically, the study examined the effects of leadership, culture, mission and strategy, management, organization structure, systems, climate, and motivation on learning, tacit and explicit knowledge (process to transfer), and performance.

Participants in the study were employees from 14 assets management companies that have been established for more than 5 years. The 371 questionnaires came from all levels of the 14 organizations.

Hierarchical ridge regression analysis was used to partition the variance explained in dependent variables by sets of organizational variables when entered into the regression model using a sequence derived from existing theory. Cohen and Cohen (1983) stated that hierarchical regression is a useful method for examining causal inferences. The sequence of entrance into the regression model was related to organization development theory using the generic hierarchical model developed by Burke & Litwin (1992) and supplemented by the Kaiser and Holton (1998) learning organization performance model. Variable sets were entered in the following sequence: leadership, culture, mission and strategy, management practices, organization structure, systems, climate, and motivation. Seven hypotheses with eight learning organization variables (variable sets) were analyzed in an attempt to explain the variance of the following learning organization outcomes including (1) experiential learning, (2) team learning (3) generative learning, tacit and explicit knowledge (4) documentation and (5)

dissemination; and organization performance including (6) financial performance and (7) knowledge performance. Two hierarchical ridge regression analyses were run as each variable set for learning outcomes was entered after the above listed independent variables. Another each two hierarchical ridge regression analyses were run as the variable set for tacit and explicit knowledge was entered after the above listed independent variables. Next, two hierarchical ridge regression analyses were run as the variable sets for learning outcomes and tacit and explicit knowledge were also entered after the above listed independent variables. Finally, structure equation modeling (SEM) was analyzed in an attempt to confirm the theory of conceptual framework (Figure 4).

Findings

Three variable sets significantly contributed to explaining variance in the dependent variable in all seven hierarchical ridge regression models. These were: culture, mission and strategy, and organization structure. Leadership, systems, and climate contributed to explaining variance in the dependent variable in six hierarchical ridge regression models except for the generative learning model. Management practices contributed to explaining variance in the dependent variable in five hierarchical ridge regression models except for the generative learning model and financial performance model, while motivation contributed to explaining variance in the dependent variable in two hierarchical ridge regression models (dissemination and knowledge performance). Learning contributed to explaining variance in tacit and explicit knowledge, financial performance and knowledge performance. Tacit and explicit knowledge contributed to explaining variance only in

knowledge performance. While the results of the hierarchical ridge regression analyses may provide support for some of the relationships suggested by the literature, the results cannot be interpreted as failing to support the theory. The hypotheses need to be further tested through more advanced methods, in varied industries, and in organizations generally recognized as learning organizations. (see Table 2)

Table 2: Summary of Appearances of Relationships - Supported and Significant Predictor Variables Across Hierarchical Ridge Regression Models

| Variables | Learning Outcomes | | | Transfer of Tacit and Explicit Knowledge | | Performance Improvement | |
|-------------------------------------|-----------------------|---------------|---------------------|--|---------------|-------------------------|-----------|
| | Experiential Learning | Team Learning | Generative Learning | Documentation | Dissemination | Financial Knowledge | Knowledge |
| | | | | | | | |
| Leadership | ++ | ++ | | ++ | ++ | ++++ | ++ |
| Culture | | | | | | | |
| Learning Latitude | ++ | ++++ | | + | ++ | + | + |
| Knowledge Indeterminacy | + | + | | + | + | + | + |
| Organizational Unity | ++ | +++ | ++ | ++ | ++ | ++ | ++ |
| Mission and Strategy | | | | | | | |
| System Thinking | ++ | ++ | + | + | ++ | + | ++ |
| External Monitoring | + | ++ | ++ | ++++ | ++++ | ++ | ++ |
| Knowledge Creation | ++++ | ++ | + | + | ++ | + | ++ |
| Management Practices | | | | | | | |
| Learning Support Practices | + | + | + | + | + | + | ++ |
| Learning Motivation Practices | + | + | | + | + | + | + |
| Performance Effectiveness Practices | ++ | ++ | + | ++ | ++ | + | |

Table 2: (continued)

| Variables | Learning Outcomes | | | Transfer of Tacit and Explicit Knowledge | | Performance Improvement | |
|---------------------------------------|---------------------------|---------------|---------------------|--|---------------|-------------------------|-----------|
| | Experiential Learning | Team Learning | Generative Learning | Documentation | Dissemination | Financial Knowledge | Knowledge |
| | Learning Adiver Practices | +++ | + | | ++ | + | + |
| Organization Structure | | | | | | | |
| Internal Alignment | ++ | ++ | + | ++++ | ++ | ++++ | ++++ |
| Facilitative Structures | +++ | ++++ | ++++ | ++ | ++++ | + | ++ |
| Systems | ++ | ++++ | + | ++++ | ++++ | ++ | ++++ |
| Climate | | | | | | | |
| Generative Learning Climate | ++++ | ++++ | | + | | + | + |
| Promotive Interaction | +++ | ++++ | + | +++ | | ++ | ++++ |
| Motivation | + | ++++ | | + | | + | ++ |
| Learning Outcomes | <i>NIA</i> | <i>NIA</i> | <i>NIA</i> | | | | |
| Experiential Learning | N/A | N/A | N/A | +++ | | ++++ | ++ |
| Team Learning | <i>NIA</i> | N/A | N/A | ++++ | ++++ | ++ | ++++ |
| Generative Learning | <i>NIA</i> | N/A | <i>NIA</i> | + | + | + | + |
| Tacit and explicit knowledge Transfer | N/A | <i>NIA</i> | <i>NIA</i> | <i>NIA</i> | <i>NIA</i> | | |
| Documentation | <i>NIA</i> | <i>NIA</i> | N/A | <i>NIA</i> | <i>NIA</i> | + | + |
| Dissemination | <i>NIA</i> | N/A | N/A | <i>NIA</i> | <i>NIA</i> | + | ++++ |

Remark: + for *Pearson correlation significant* at $p < 0.5$.
 ++ for supported but not *significant* predictor
 +++ for *significant* predictor at $p < .05$.
 ++++ for *significant* predictor at $p < .01$.
 N/A for predictor not included in *model*.

The results of the seven hierarchical ridge regression models (see Tables A.1 and A.2 in Appendices) suggest that future analyses might begin with the paths shown in Figure 5. Figure 5 merely summarizes the

mediated and direct relationships discussed throughout this chapter in a convenient graphical form. This figure should not be interpreted as indicating that the hierarchical ridge regression analysis tested these paths. Rather, it simply shows that the hierarchical regression analyses suggested that these paths are appropriate for further testing.

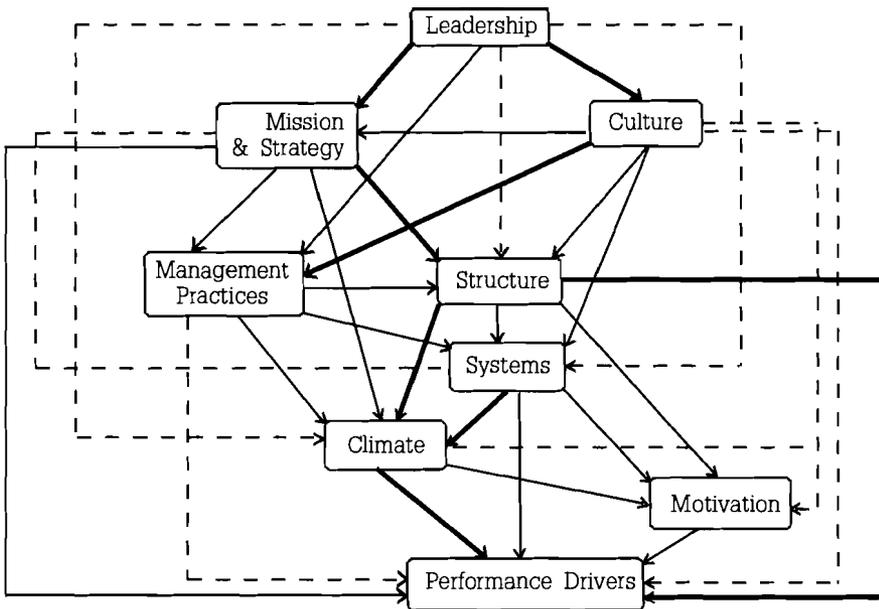


Figure 5: Paths Suggested by Hierarchical Regression Models of Learning Organization Variables Predicting Learning and Performance Drivers

The model includes the consistent role of leadership, culture, mission and strategy, and organization structure explaining learning outcomes and transfer of tacit and explicit knowledge. It also displays both the mediated and direct effects of organizational variables on both learning and performance drivers. Two possible departures from the Burke & Litwin model

are the poor position of management practices and motivation related to learning. Based on the hierarchical ridge regression models, the effect of climate on motivation was low, contrary to what had been found in the existing literature and suggested by the Burke & Litwin model. However, these departures could also represent relationships unique to the assets management business, so no theoretical conclusion should be made at this point.

The refined conceptual model with all of the indicators except for the two previously not significant structural paths was tested with the purpose of assessing factor loading and structure relationships. Based on the AMOS version 5.0 solutions, shown in Figure 6, the redefined model presented a better fit than the initial model (Figure 4). When these fit statistics are considered together, the above results lend support to the overall statistical and conceptual validity of the model.

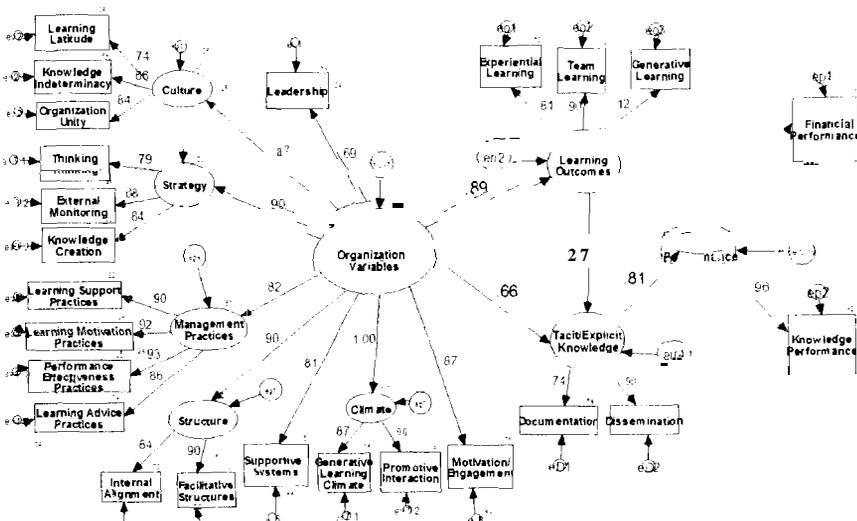


Figure 6: Refined Structural Equation Model

Analyze goodness-of-fit statistics and modify the model according to modification indices which are an estimate of the decrease in the χ^2 (chi-square) if a particular parameter (indicator in this particular study) is freed. Joreskog and Sörbom (1999) recommended a strategy for possible model modification that involves the observed value and the modification indices. They argue that a large parameter (as compared to the degrees of freedom) should be taken as an indication that certain parameters (indicators in this particular study) should be freed to improve the data-model fit and the modification indices provide an estimate of this improvement.

To examine this model, indices of model fit, model comparison, and model parsimony were calculated. Of the approximately 40 possible goodness-of-fit indices now available in structural equation modeling, fourteen indices have been calculated and include: chi-square (CMIN), chi-square/df (CMIN/df), root mean square error of Approximation (RMSEA), 90% of RMSEA, normed fit index (NFI), Tucker-Lewis index or non-normed fit index (TLI), comparative fit index (CFI), the relative fit index (RFI) goodness-of-fit index (GFI), adjusted goodness-of-fit index (AGFI), parsimony goodness-of-fit index (PGFI), parsimony comparative fit index (PCFI), parsimony normed fit index (PNFI), expected cross validation index (ECVI) (Byrne, 1998).

To interpret these indices, the following rules of interpretation, which are generally accepted in structural equation modeling literature, were employed. RMSEA values should be as small as possible with perfect fit indicated by an index of zero. Values less than .08 indicate at least sound fit while values between .08 and .1 reflect mediocre fit (Byrne, 1998). GFI, AGFI, TLI and RFI range between 0 and 1 with values above .9 indicating

good model fit. While PGFI, PNFI and PCFI values range from 0 to 1, values close to 1 (perfect fit) are not expected. Moreover, indices around .5 are not unexpected in sound-fitting models. The relative strength of each path can be assessed by the standardized regression (or path) coefficient for that path with a t-test conducted to establish the statistical significance of the path.

Overall, the data fit to the model is good to quite good. However, this finding, coupled with the rejection of the non-conceptually implied direct influence between "Organization Variables" and "Individual Performance" (t-value = 0.306) and "Learning Outcomes" and "Individual Performance" (t-value = .015), validated the assumed direction of the structural relationships and provided support for the theorized mediating influence of the transfer of tacit and explicit knowledge process on the relationship between the learning organization environment, learning outcomes and performance improvement. Four structural relationships, which represent the conceptual arguments of the model, were deemed to be significant based on their calculated t-statistics (Joreskog & Sorbom, 1989; Sharma, 1996). There are scant theoretical findings on the relationship between the learning organization environment, learning outcomes, the transfer of tacit and explicit knowledge process, and performance improvement as proposed in the present study. However, certain alternative theories provide a rationale for expecting such a relationship. Particularly, within the organizational learning perspective, the internal transfer of tacit and explicit knowledge has been analyzed in terms of actions taken by individuals or organizations, and a sequence of events that identify how the process of mobilizing knowledge develops over time. (Itami, 1987; Senge, 1990; Itami

and Nagami, 1992; Watkins and Marsick, 1993; Marsick & Watkins, 1994; Nonaka, 1994, 1998).

Based on the plausibility criterion (Sarıs & Sronkhorst, 1984), these findings further confirmed by the relatively high level of the expected value of the cross-validation index (ECVI = 1.662), which is a measure of the discrepancy between the fitted covariance matrix in the analyzed sample and the expected covariance matrix that would be obtained in another sample of the same size. The smaller the value of the ECVI, the better the predictive validity of the model (Mueller, 1996).

In the structural model, the relationships among the learning organization environment, learning outcomes and tacit and explicit knowledge transfer were shown to be statistically significant. The relationship between tacit and explicit knowledge transfer and performance improvement was also shown to be statistically significant. In the measurement model, leadership, culture, strategy, management practices, organization structure, systems, climate, motivation, experiential learning, team learning, generative learning, documentation, dissemination, financial performance and knowledge performance were shown to be statistically significant indicators of their respective latent constructs. When put all together, the inference is that the process of internal transfer of tacit and explicit knowledge is determined by these (learning) organization variables and learning outcomes and that this process has a direct influence on both financial and knowledge performance. Existing concepts relating to the issues treated herein are based primarily on case studies and anecdotal evidence from individual companies. In contrast, the results of this study represent one of the first attempts at empirical validation of key causal linkages in a learning organization.

This study's contributions to the existing literature are herein delineated.

First, the study has proposed the tacit and explicit knowledge transfer process as being determined by an organizational background fostered by the implementation of the learning organization variables with learning outcomes and in turn this process has a direct impact on performance improvement. The framework provides a basis for assessing the effectiveness of the learning organization, learning outcomes and tacit and explicit knowledge transfer. The linkages were then identified in terms of latent variables and the resulting model was refined using the structural equation modeling technique. Previous research has not tested the causal linkages along these lines.

Second, this study has demonstrated the usefulness of focusing attention on latent variables and their covariance structure. The structural equation modeling technique is well suited to capturing the linkages among the learning organization variables, learning outcomes, the transfer of tacit and explicit knowledge process, and performance improvement.

Third, the measurement model was shown to be statistically significant, thus providing a foundation for additional research in this area.

Fourth, the results show that the conceptual model has statistical validity, providing empirical evidence for the importance of the development of learning organizations to learning outcomes, the processes of tacit and explicit knowledge transfer and performance improvement.

Although this research is focused on firms in the asset management business, other types of industries can benefit from the findings (e.g. the finance industry). Since this is the first effort to relate the learning

organization environment, learning outcomes, tacit and explicit knowledge transfer and individual performance, this research would contribute to the enrichment of learning strategies, particularly in Thailand. The findings of this study contribute towards understanding the importance of embracing the concept of the learning organization in relation to performance improvement in asset management organizations across the country. Furthermore, it would provide a strong theoretical contribution to the development of the learning organization, especially in Thailand.

The conceptual model presented here makes a valuable contribution to the effort to move learning organization research forward by incorporating transfer of tacit and explicit knowledge and learning outcomes as two of the many possible mediators of the relationship between the organization variables and performance improvement. In addition, the findings are also expected to deepen the understanding of issues relating to the learning organization variables, learning outcomes, tacit and explicit knowledge transfer, and performance improvement in organizations, which are useful in building theoretical framework in learning organization and knowledge management studies.

Finally, the present study has provided a Thai version of the Learning Organization Questionnaire, an instrument that will assist firms in generating data to assess the actual organizations with respect to the goal of becoming learning organizations.

Conclusions

This study empirically investigated the relationships between eight organization variables and three learning outcomes, the transfer of tacit and

explicit knowledge process and performance improvement within fourteen asset management companies in Thailand. To better capture these relationships a unified conceptual model was proposed (see Figure 4). The central premise on which the model was based was described in the following terms: the process of tacit and explicit knowledge transfer is influenced by the eight learning organization variables and three learning outcomes, and this process has in turn a direct impact on financial as well as knowledge performance. There is substantial literature about the importance of organizational learning and the need for organizational capacity to support learning. In addition, there are reports describing recognized learning organizations, their efforts and their success stories. However, as Jacobs (1995) pointed out, there is a lack of empirical research to support the theoretical claims of improved organizational effectiveness resulting from implementation of learning organization strategies. This study is a direct response to that challenge.

This study also offers empirical evidence that lends support to the conceptual model. The results suggest that the influence of the learning organization variables on knowledge performance is mediated by the tacit and explicit knowledge transfer process and learning outcomes. Linear structural relations analysis revealed the significance of the "climate" and "organization structure" in the implementation of a learning organization. Generative learning was found to structurally load poorly onto the latent variable learning outcomes, suggesting the need for a richer conceptualization of this factor or for the development and inclusion of other indicators of organization learning. Moreover the results suggest that some aspects of learning organization theory were supported while others may not have

been. However, this is an initial study and no definitive conclusions can be drawn without more research in more organizations, especially in those designated and recognized as learning organizations. More research is also needed to validate the hypotheses related to learning organization theory. Importantly, this study lays groundwork for proposing a causal model for testing with structural equation modeling techniques. The results suggest that practitioners working to develop learning organizations should work towards creating leadership and a culture supportive of learning, towards developing mission and strategy to achieve learning goals, and towards aligning the internal elements of the organization to broaden learning. These variables were significant predictors of organizational learning, which is again defined in the literature as the acquisition, dissemination, interpretation, and storage and retrieval of information with the purpose of affect-

ing improved organizational effectiveness. The results also suggest that developmental efforts aimed at transfer of tacit and explicit knowledge and performance improvement should give attention to the learning processes. The practitioner should keep in mind, that while the hypotheses related to organizational learning are intuitively inviting, more research is needed

Appendices

Table A.1: Summary of Full Mediation of Eight (Learning) Organization Variables across Regression Models

| Variables | (Learning)Organization Variables | | | | | Motivation1 engagement |
|------------------------|----------------------------------|----------------------------|-------------------------|---------------------------|---------|---------------------------|
| | Culture | Mission and Strategy | Management Practices | Organization Structure | Systems | |
| Leadership | | 2,4,5,7 | 1 | | | |
| Culture | | 3,4,6 | 5,7 | 5 | | |
| Mission and Strategy | | | 5 | 1,2,3,5,6,7 | | 2 |
| Management Practices | | | | 2,7 | 4,5 | 1 |
| Organization Structure | | | | | 4 | 1,2,7 |
| Systems | | | | | | 1,2,6 |
| Climate | | | | | | |

- Remark. 1 from regression model for experiential learning,
 2 from regresslon model for teams learning
 3. from regresslon model for documentation,
 4 from regression model for documentation
 5 from regression model for dissemination.
 6 from regresslon model for financial performance
 7 from regression model for knowledge performance

Table A.2: Summary of Full Mediation of Eight (Learning) Organization Variables across Regression Models

| Variables | (Learning) Organization Variables | | | | | | Motivation/engagement |
|------------------------|-----------------------------------|----------------------|----------------------|------------------------|---------|-----------|-----------------------|
| | Culture | Mission and Strategy | Management Practices | Organization Structure | Systems | Climate | |
| Leadership | 1,2,4,5,6,7 | 1,6 | | 6 | 6 | 6 | |
| Culture | | 1,2 | 1,2,5 | 1,2 | 1,2 | 2 | 2 |
| Mission and Strategy | | | 1,2,4 | 4 | 7 | 4,5 | |
| Management Practices | | | | 1 | 1 | | |
| Organization Structure | | | | | 1,2,6 | 1,2,5,6,7 | 2,5,7 |
| Systems | | | | | | 1,2,5 | 2,5,7 |
| Climate | | | | | | | 5,7 |

- Remark.
1. from *regression* model for *experiential learning*,
 2. from *regression* model for *teams learning*
 3. from *regression* model for *documentation*,
 4. from *regression* model for *documentation*
 5. from *regression* model for *dissemination*,
 6. from *regression* model for *financial performance*
 7. from *regression* model for *knowledge performance*

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